

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : William B. Kerfoot

Art Unit : 1724

Serial No. : 09/993,152

Examiner : Fred G. Prince

Filed : November 6, 2001

Title : GAS-GAS-WATER TREATMENT SYSTEM FOR GROUNDWATER AND
SOIL REMEDIATION

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

This statement is being filed after a first Office action on the merits, but before receipt of a final Office action or a Notice of Allowance. A check for \$180 in payment of the late submission fee of §1.17(p) is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/9/04

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Signature

Penora H. Francis
Typed or Printed Name of Person Signing Certificate

02/13/2004 JADD01 00000073 09993152

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Substitute Form PTO-1449
(Modified)U.S. Department of Commerce
Patent and Trademark OfficeAttorney's Docket No.
10578-003002Application No.
09/993,152**Information Disclosure Statement
by Applicant**

(Use several sheets if necessary)

Applicant
William B. KerfootFiling Date
November 6, 2001Group Art Unit
1724

(37 CFR 1.98(b))

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	4,639,314		Tyer			1/18/85
	AB	4,696,739		Pedneault			8/11/86
	AC	4,966,717		Kern			2/10/89
	AD	5,116,163		Bernhardt			1/16/91
	AE	5,122,165		Wang et al.			6/11/91
	AF	5,180,503		Gorelick et al.			5/10/91
	AG	5,221,159		Billings et al.			6/7/91
	AH	5,227,184		Hurst			5/29/92
	AI	5,246,309		Hobby			5/16/91
	AJ	5,277,518		Billings et al.			11/27/91
	AK	5,389,267		Gorelick et al.			12/18/92
	AL	5,425,598		Pennington			8/12/93
	AM	5,451,320		Wang et al.			7/10/90
	AN	5,472,294		Billings et al.			1/10/94
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	AR	6,007,274		Suthersan			5/19/97
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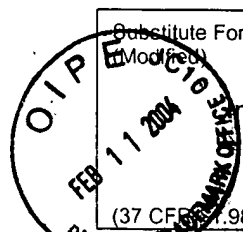
Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AW	4-171036		Patent Abstract of Japan				
	AX	6-023378		Patent Abstract of Japan				

Examiner Signature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

 Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR 1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 10578-003002	Application No. 09/993,152
	Applicant William B. Kerfoot		
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							Yes	No
	AY							
	AZ							
	AAA							

Other Documents (include Author, Title, Date, and Place of Publication)

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	ABB	"Factors Controlling the Removal of Organic Pollutants in an Ozone Reactor", M.D. Gurol, AWWA 1984 Annual Conference, Dallas, TX, June 10-14, 1984, pp. 2-21.
	ACC	"In-situ Air Sparging Without Inorganic Nutrient Amendment: An Effective Bioremediation Strategy for Treating Petroleum-Contaminated Groundwater Systems", R. Schaffner, Jr., et al., http://www.bioremediationgroup.org/BioReferences/Tier1Papers/insitu.htm , July 30, 2003, pp. 1-14.
	ADD	"Environmental Management", DON Environmental Restoration Plan for Fiscal Years 1997-2001, Sept. 30, 1996, pp. 4-1 to 4-8.
	AEE	"How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites", U.S. Environmental Protection Agency, October 1994.
	AFF	"Yuma Pilot-Testing Ozone Sparging, Stripping", Pasha Publications, Defense Cleanup, Nov. 8, 1996, pp. 5-6.
	AGG	"Chemical Degradation of Aldicarb in Water Using Ozone", F.J. Beltran et al., <i>Journal of Chemical Technology & Biotechnology</i> , 1995, pp. 272-278.
	AHH	"Modelling Industrial Wastewater Ozonation in Bubble Contactors", <i>Ozone Science & Engineering</i> , Vol. 17, 1995, pp. 379-398.
	AII	"Modelling Industrial Wastewater Ozonation in Bubble Contactors", <i>Ozone Science & Engineering</i> , Vol. 17, 1995, pp. 355-378.
	AJJ	"Kinetics of the Bentazone Herbicide Ozonation", <i>Journal of Environmental Science and Health</i> , Vol. A31, No. 3, 1996, pp. 519-537.
	AKK	"Field Applications of In Situ Remediation Technologies: Chemical Oxidation", U.S. Environmental Protection Agency, September 1998, pp. 1-31.
	ALL	"Technology Status Review In Situ Oxidation", <i>Environmental Security Technology Certification Program</i> , November 1999, pp. 1-42.
	AMM	"Design of a Packed Bed Ozonation Reactor for Removal of Contaminants from Water, Billing, <i>Dissertation Abstracts International</i> , Vol. 57, No. 10, April 1997, pp. 6398-B.
	ANN	"Completed North American Innovative Remediation Technology Demonstration Projects", U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, August 12, 1996, pp. 1-35.
	AOO	"Ground Water Issue", H.H. Russell et al., U.S. Environmental Protection Agency, January 1992, pp. 1-10.
	APP	"In Situ Chemical Treatment", Y. Yin, Ph.D., <i>Technology Evaluation Report, GWRTAC</i> , July 1999, pp. 1-74.
	AQQ	"Analysis of Selected Enhancements for Soil Vapor Extraction", U.S. Environmental Protection Agency, September 1997, pp. 1-5 to 7-39.

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		Filing Date November 6, 2001	Group Art Unit 1724

Other Documents (include Author, Title, Date, and Place of Publication)

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	ARR	"Biologisch-chemische Behandlung Eines Kontaminierten Grundwassers von einem Gaswerksgele, Dr.-Ing. Joachim Behrendt, <i>Technische Universität Hamburg-Harburg, Germany</i> , Vol. 136, No. 1, January 1995, pp. 18-24.
	ASS	"Single-phase Membrane Ozonation of Hazardous Organic Compounds in Aqueous Streams", P.V. Shanbhag et al., <i>Journal of Hazardous Materials</i> 41, 1995, pp. 95-104.
	ATT	"Gas Partitioning of Dissolved Volatile Organic Compounds in the Vadose Zone: Principles, Temperature Effects and Literature Review, J.W. Washington, <i>GROUNDWATER</i> , Vol. 34, No. 4, July-August 1996, pp. 709-718.
	AUU	"Biologically Resistant Contaminants, Primary Treatment with Ozone", D.F. Echegaray et al., <i>Water Science and Technology. A Journal of the International Association on Water Quality</i> , Vol. 29, No. 8, 1994, pp. 257-261.
	AVV	"Toxins, toxins everywhere", K.K. Wiegner, <i>Forbes</i> , July 22, 1991, pp. 298.
	AWW	"In Situ Air Sparging System", <i>Tech Data Sheet, Naval Facilities Engineering Service Center</i> , March 1997, pp. 1-4.
	AXX	"Ground Water, Surface Water, and Leachate", http://www.frtr.gov/matrix2/section 4/4-30.html , July 22, 2003, pp. 1-4.
	AYY	"Alternate Technologies for Wastewater Treatment", J. Hauck et al., <i>Pollution Engineering</i> , May 1990, pp. 81-84.
	AZZ	"Cleaning up", <i>Forbes</i> , June 1, 1987, pp. 52-53.
	AAAA	"In Situ Chemical Oxidation for Remediation of Contaminated Soil and Ground Water", <i>EPA</i> , September 2000, Issue No. 37, pp. 1-6.
	ABBB	"Aquifer Remediation Wells", <i>EPA</i> , Vol. 16, September 1999, pp. 1-80.
	ACCC	"Transfer Rate of Ozone across the Gas-Water Interface", S. Okouchi et al., <i>The Chemical Society of Japan</i> , No. 2, 1989, pp. 282-287.
	ADDD	"Effect of Organic Substances on Mass Transfer in Bubble Aeration", M. Gurol et al., <i>Journal WPCF</i> , Vol. 57, No. 3, pp. 235-240.
	AEEE	"Clare Water Supply", <i>EPA</i> , http://www.epa.gov/region5/superfund/npl/michigan/MID980002273.htm , pp. 1-3.
	AFFF	"Who's Afraid of MTBE?", K.P. Wheeler et al., <i>Manko, Gold & Katcher</i> , http://www.rcc-net.com/Wheels.htm , July 2000, pp. 1-5.
	AGGG	"RCC RemedOzone Mobile Remediation System", <i>RCC</i>
	AHHH	"Santa Barbara I Manufactured Gas Plant Site", <i>California EPA</i> , January 2002, pp. 1-6.
	AIII	"Typical Applications of Ozone", <i>ARCE Systems, Inc.</i> , http://www.arcesystems.com/products/ozone/applications.htm , 2000-02, pp. 1-2.
	AJJJ	"Strategies to Protect Your Water Supply from MTBE", <i>Komex Industries</i> , http://www.komex.com/industries/remediation.stm , 2002, pp. 1-8.
	AKKK	"In Situ Remediation with Chemical Oxidizers: Ozone, Peroxide and Permanganate", <i>Environmental Bio-systems, Inc.</i> , pp. 1-5.
	ALLL	"Newark Brownfield Site to Increase Student Housing", <i>Environmental Alliance Monitor</i> , http://www.envalliance.com/monitor&pubs/1998fall.htm , 1998, pp. 1-8.

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	AMMM	"In Situ Ozonation to Remediate Recalcitrant Organic Contamination", J. Dablow et al., IT Corporation, pp. 1-2.

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